

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES UPGRADING THE PEDESTRIAN TRAFFIC SIGNAL EQUIPMENT TO APS/CPS AT THE INTERSECTION OF MD 410 AND MD 384 IN MONTGOMERY COUNTY. MD 410 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION OPERATES IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE. MD 410 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY AND PEDESTRIAN MOVEMENTS TO CROSS BOTH LEGS OF MD 384 OPERATE CONCURRENTLY. AND MD 384 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY AND PEDESTRIAN MOVEMENTS TO CROSS BOTH LEGS OF MD 410 OPERATE CONCURRENTLY. THERE IS EXCLUSIVE/PERMISSIVE LEFT TURN PHASING FOR MD 384 SOUTHBOUND AND MD 410 EASTBOUND MOVEMENTS. ASSOCIATED WITH THE MD 410 EXCLUSIVE/PERMISSIVE LEFT TURN PHASING IS A CONCURRENT RIGHT TURN FOR THE SOUTH TO WEST MOVEMENT OF MD 384.

III. MONTGOMERY COUNTY SPECIAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES (EXCLUDING INTERCONNECT) TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE. THE CONTRACTOR SHALL NOTIFY MR. KAMAL HAMUD AT (240) 777-8761 72 HOURS IN ADVANCE OF ALL WORK. THE APS PUSHBUTTONS SHALL BE DELIVERED TO MR. KEITH LORD (301) 674-8965 AT THE MONTGOMERY COUNTY TECHNICAL CENTER, SIX (6) WEEKS PRIOR TO INSTALLATION.

IV. APS NOTES

PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60"X60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.

THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.

PUSH BUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.

LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 AND FIG. 4E.2 AND NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS NORTH LEG:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:  
"WAIT TO CROSS COLESVILLE AT EAST-WEST."  
B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS SOUTH LEG:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:  
"WAIT TO CROSS COLESVILLE AT EAST-WEST."  
B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS EAST LEG:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:  
"WAIT TO CROSS EAST-WEST AT COLESVILLE."  
B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS WEST LEG:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:  
"WAIT TO CROSS EAST-WEST AT COLESVILLE."  
B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

EQUIPMENT LIST FOR CONTRACT AX7035168

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM	QUANTITY	UNIT	DESCRIPTION
1001	820	LF	REM. OF EXISTING PERM PVMT LINE MARKINGS ANY WIDTH
2002	1	CY	TEST PIT EXCAVATION
5005	320	LF	12 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
8001	8	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8002	8	EA	BREAKAWAY PEDESTAL POLE - ANY SIZE
8003	1	EA	FURNISH AND INSTALL 2 WIRE CONTROL UNIT
8004	8	EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEADS
8005	8	EA	PEDESTRIAN EDUCATION SIGN
8007	1	EA	REMOVE AND DISPOSE PER ASSIGNMENT
8012	605	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8013	230	LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8014	4	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8015	8	SF	INSTALL GROUND MOUNTED SIGN
8018	4	EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8020	1525	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8021	1610	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
NEG	390	LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
NEG	100	LF	24" HEAT APPLIED WHITE PERM PREF THERMO PVMT MARKINGS
NEG	1	EA	4 INCH SCHEDULE 80 RIGID PVC CONDUIT WITH SCHEDULE 80 RIGID PVC CONDUIT BEND IN EXISTING CABINET FOUNDATION

CONTACTS

The contact persons for District #3 are as follows:

Mr. Brian Young  
Assistant District Engineer - Traffic  
Phone: (301) 513-7358

Mr. Vernon Stinnett  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

Mr. Augie Rebish  
Utility Engineer  
Phone: (301) 513-7350

Mr. Richard L. Doff, Sr.  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

Mr. Ed Rodenhizer  
Supervisor, Signal Operations  
Phone: (410) 787-7650

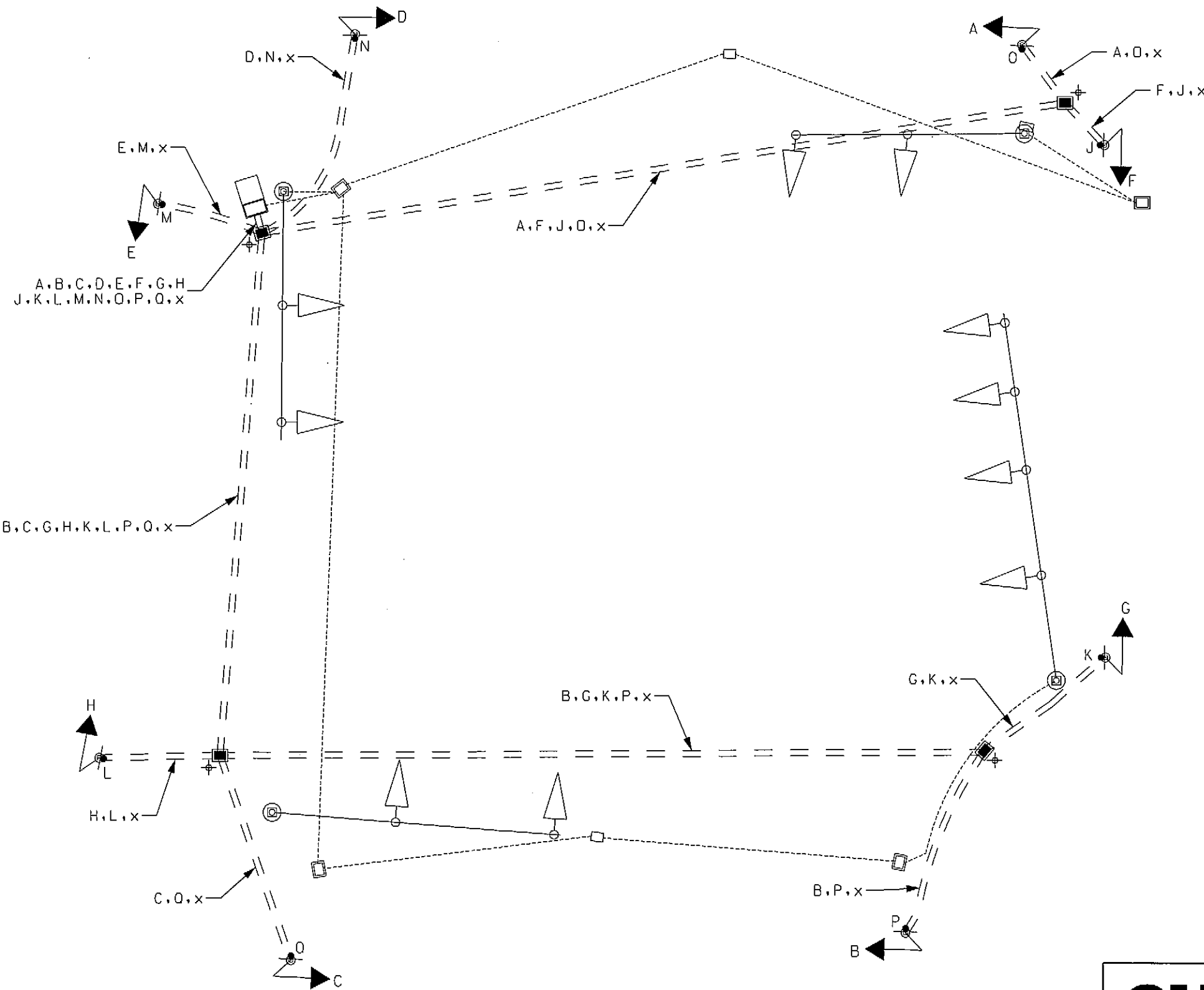
Mr. Kamal Hamud  
Phone: (240) 777-8761

Mr. Keith Lord  
Phone: (301) 279-1291

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 2 AND 5	←R-	←R-	R	R	R	R	R	R	←GG	GG→	DW	DW	DW	DW	DW	DW	DW	DW
2 AND 5 CHANGE	←R-	←R-	R	R	R	R	R	R	←YG	YY→	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	←R-	←R-	R	R	R	R	G	G	G	GG→	DW	DW	DW	WK	WK	WK	WK	WK
PED CLEARANCE	←R-	←R-	R	R	R	R	G	G	G	GG→	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW	FL/DW
2 AND 6 CHANGE	←R-	←R-	R	R	R	R	Y	Y	Y	YY→	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 7	←G-	←G-	G	G	R	R	R	R	R	RG→	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 7 CHANGE	←Y-	←Y-	Y	Y	R	R	R	R	R	RY→	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	←R-	←R-	G	G	G	GG→	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEARANCE	←R-	←R-	G	G	G	GG→	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
4 AND 8 CHANGE	←R-	←R-	Y	Y	Y	YY→	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

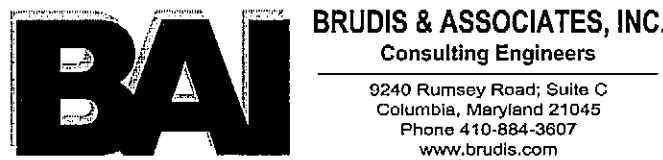
WIRING DIAGRAM



WIRING KEY

- A.B.C.D.E.F.G.H } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- J.K.L.M.N.O.P.Q } 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- x } NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
- + } GROUND ROD

NOTE: ALL EXISTING TRAFFIC SIGNAL HEAD AND DETECTOR WIRING WILL REMAIN.  
SEE NOTE III - MONTGOMERY COUNTY SPECIAL NOTES FOR WIRING TERMINATION.



<b>SHA</b> STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION			
MD 410 AT MD 384 SILVER SPRING, MD			
<b>GENERAL INFORMATION PLAN SHEET</b>			
SCALE <u>NTS</u>	DATE <u>01/2010</u>	CONTRACT NO. <u>AX7035168</u>	
DESIGNED BY <u>XM</u>	COUNTY <u>MONTGOMERY</u>		
DRAWN BY <u>XM</u>	LOGMILE <u>15038400.29</u>		
CHECKED BY <u>JB</u>	TIMS NO. <u>K199</u>		
F.A.P. NO. _____	TOD NO. _____		
TS NO. 4318D	DRAWING - OF	SHEET NO. 14 OF 16	